

CLAIMS:

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AI
1. A method for facilitating speedy communication of packets between entities on a network, the method comprising:
 - sending a delay-disable command;
 - sending a set of packets from a sending entity to a receiving entity.
 2. A method as recited in claim 1, wherein the set of packets includes two packets sent back-to-back.
 3. A method as recited in claim 1, wherein the set of packets consists of a first bandwidth-measurement packet and a second bandwidth-measurement packet, wherein the second packet is sent immediately after the first packet.
 4. A method as recited in claim 1, wherein the network is TCP.
 5. A method as recited in claim 1, wherein the delay-disable command disables the Nagle Algorithm on one or more communication devices on the network.

1 6. A method as recited in claim 1, wherein the delay-disable command
2 is TCP_NODELAY.

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4 7. A program module having computer-executable instructions that,
5 when executed by a computer, performs the method as recited in claim 1 at an
6 application layer in accordance with an OSI model.

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8 8. A computer-readable medium having computer-executable
9 instructions that, when executed by a computer, performs the method as recited in
10 claim 1.

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12 9. A method for facilitating speedy communication of packets between
13 entities on a network, the method comprising:

14 sending a set of packets from a sending entity to a receiving entity, wherein
15 a transmission delay between packets in the set is intolerable;

16 immediately thereafter, sending at least one "push" packet to avert a
17 transmission delay between packets in the set, wherein the delay is caused by
18 packet buffering of a communication device on the network.

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20 10. A method as recited in claim 9, wherein the set of packets includes
21 two packets sent back-to-back.

1 11. A method as recited in claim 9, wherein the set of packets are
2 bandwidth-measurement packets for measuring bandwidth between the sending
3 entity and the receiving entity.
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5 12. A method as recited in claim 9, wherein the communication device
6 is a proxy server.
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8 13. A method as recited in claim 9, wherein the network is TCP.
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10 14. A program module having computer-executable instructions that,
11 when executed by a computer, performs the method as recited in claim 9 at an
12 application layer in accordance with an OSI model.
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14 15. A computer-readable medium having computer-executable
15 instructions that, when executed by a computer, performs the method as recited in
16 claim 9.
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18 16. A method for facilitating speedy communication of packets between
19 entities on a network, the method comprising:
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21 sending a set of packets from a sending entity to a receiving entity, wherein
22 a transmission delay between packets in the set is intolerable;
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24 immediately before, sending at least one "priming" packet to avoid a
25 transmission delay between packets in the set, wherein the delay is caused by
flow-control functions of a communication device on the network.

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2 17. A method as recited in claim 16, wherein the set of packets includes
3 two packets sent back-to-back.
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5 18. A method as recited in claim 16, wherein the set of packets are
6 bandwidth-measurement packets for measuring bandwidth between the sending
7 entity and the receiving entity.
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9 19. A method as recited in claim 16, wherein the network is TCP.
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11 20. A method as recited in claim 16 further comprising establishing a
12 TCP connection between the sending entity to the receiving entity, wherein the
13 establishing is just before the sending of the set of packets.
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15 21. A method as recited in claim 16, wherein the flow-control function
16 is the Slow Start Algorithm.
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18 22. A program module having computer-executable instructions that,
19 when executed by a computer, performs the method as recited in claim 16 at an
20 application layer in accordance with an OSI model.
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1 **23.** A computer-readable medium having computer-executable
2 instructions that, when executed by a computer, performs the method as recited in
3 claim 16.

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5 **24.** A method for facilitating bandwidth measurement between two
6 entities on a network, the method comprising:
7 sending a delay-disable command;
8 sending a pair of bandwidth-measurement packets from a sending entity to
9 a receiving entity.

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11 **25.** A method as recited in claim 24 further comprising receiving a
12 bandwidth calculation based upon measurements related to the pair of packets.

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14 **26.** A method for facilitating bandwidth measurement between two
15 entities on a network, the method comprising:
16 sending a pair of bandwidth-measurement packets from a sending entity to
17 a receiving entity, wherein a transmission delay between packets in the pair is
18 intolerable;

19 immediately thereafter, sending at least one "push" packet to avert a
20 transmission delay between packets in the pair, wherein the delay is caused by
21 packet buffering of a communication device on the network.
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1 27. A method as recited in claim 26 further comprising receiving a
2 bandwidth calculation based upon measurements related to the pair of packets.

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4 28. A method for facilitating bandwidth measurement between two
5 entities on a network, the method comprising:

6 sending a pair of bandwidth-measurement packets from a sending entity to
7 a receiving entity, wherein a transmission delay between packets in the pair is
8 intolerable;

9 immediately before, sending at least one "priming" packet to avoid a
10 transmission delay between packets in the pair, wherein the delay is caused by
11 flow-control functions of a communication device on the network.

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13 29. A method as recited in claim 28 further comprising receiving a
14 bandwidth calculation based upon measurements related to the pair of packets.

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16 30. A computer-readable medium having computer-executable
17 instructions that, when executed by a computer, perform a method to facilitate
18 speedy communication of packets between entities on a network, the method
19 comprising:

20 sending a delay-disable command;

21 sending a set of packets from a sending entity to a receiving entity.
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1 **31.** A computer-readable medium having computer-executable
2 instructions that, when executed by a computer, perform a method to facilitate
3 speedy communication of packets between entities on a network, the method
4 comprising:

5 sending a set of packets from a sending entity to a receiving entity, wherein
6 a transmission delay between packets in the set is intolerable;

7 immediately thereafter, sending at least one "push" packet to avert a
8 transmission delay between packets in the set, wherein the delay is caused by
9 packet buffering of a communication device on the network.
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11 **32.** A computer-readable medium having computer-executable
12 instructions that, when executed by a computer, perform a method to facilitate
13 speedy communication of packets between entities on a network, the method
14 comprising:

15 sending a set of packets from a sending entity to a receiving entity, wherein
16 a transmission delay between packets in the set is intolerable;

17 immediately before, sending at least one "priming" packet to avoid a
18 transmission delay between packets in the set, wherein the delay is caused by
19 flow-control functions of a communication device on the network.
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2 **33.** An apparatus comprising:

3 a processor;

4 a transmission-delay avoider executable on the processor to:

5 send a delay-disable command;

6 send a set of packets from a sending entity to a receiving entity.

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8 **34.** An apparatus comprising:

9 a processor;

10 a transmission-delay avoider executable on the processor to:

11 send a set of packets from a sending entity to a receiving entity,
12 wherein a transmission delay between packets in the set is intolerable;

13 immediately thereafter, send at least one "push" packet to avert a
14 transmission delay between packets in the set, wherein the delay is caused
15 by packet buffering of a communication device on the network.

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17 **35.** An apparatus comprising:

18 a processor;

19 a transmission-delay avoider executable on the processor to:

20 send a set of packets from a sending entity to a receiving entity,
21 wherein a transmission delay between packets in the set is intolerable;

22 immediately before, send at least one "priming" packet to avoid a
23 transmission delay between packets in the set, wherein the delay is caused
24 by flow-control functions of a communication device on the network.
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2 36. A modulated data signal having data fields encoded thereon
3 transmitted over a communications channel, comprising:

4 a first field including a delay-disable command

5 a second field including a first bandwidth-measurement packet;

6 a third field including a second bandwidth-measurement packet.
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8 37. A modulated data signal having data fields encoded thereon
9 transmitted over a communications channel, comprising:

10 a first field including a first bandwidth-measurement packet

11 a second field including a second bandwidth-measurement packet;

12 a third field including a "push" packet facilitating minimization of
13 transmission delay between the first and second packets, wherein the delay is
14 caused by packet buffering of a communication device on the network.
15

16 38. A modulated data signal having data fields encoded thereon
17 transmitted over a communications channel, comprising:

18 a first field including a "priming" packet;

19 a second field including a first bandwidth-measurement packet;

20 a third field including a second bandwidth-measurement packet;

21 wherein the "priming" packet facilitates minimization of transmission delay
22 between packets, wherein the delay is caused by flow-control functions of a
23 communication device on the network.
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